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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,495	02/28/2002	Kiyohito Ishida	SUG-014-USA-P	7467

7590 11/07/2003

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WASHINGTON, DC 20004

EXAMINER

YEE, DEBORAH

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 11/07/2003 //

Please find below and/or attached an Office communication concerning this application or proceeding.

CLO 11

<b>Office Action Summary</b>	<b>Application No.</b> 10/084,495	<b>Applicant(s)</b> ISHIDA ET AL.	
	<b>Examiner</b> Deborah Yee	<b>Art Unit</b> 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,4,5,8 to 16, 18 to 24 and 27 to 45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,4,5,8,9,12-16,18-24,27 and 31-45 is/are allowed.
- 6) ☒ Claim(s) 10,11 and 28 to 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \*   c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9</u> . | 6) <input type="checkbox"/> Other: _____                                    |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 11, and 28 to 30 are rejected . 10a) as being unpatentable over Watari et al. (US Patent 5,922,145).

Claim 1 in columns 39 and 40 discloses a steel alloy with constituents whose wt% ranges overlap those recited by the claims. It has been held that one of ordinary skill in the art at the time the invention was made would have considered the claimed composition to have been obvious because overlapping ranges in a composition and similar properties (good machinability) are considered to establish a prima facie case of obviousness, see MPEP2144.05

More specifically, Watari discloses steel 36 in Table 3 of columns 19 and 20 which meets the recited claimed composition. Also prior art alloy, similar to the present invention, contains machinability improving compound phase comprising titanium carbon sulfide compounds. Although prior art does not teach the compound phase having a weight % range of 0.1 to 10% as recited by claim 10, such amount would be expected since compositional and process limitations are met, and in absence of proof to the contrary.

In regard to claim 11, Watari on lines 10 to 25 of column 1 discloses using steel for machinery for industrial use, which would include dies.

Furthermore, even though prior art does not teach the composition formula M4Q2C2 as recited in claim 28, such formula would be expected for the prior art titanium carbon sulfide compound since compositional and process limitations of making alloy are the same.

Specific prior art steel 36, also, meets the compositional limitations of claim 29 and 30.

### ***Response to Arguments***

Applicant's arguments filed September 8, 2003 have been fully considered but they are not persuasive. It was argued that Watari fails to provide a tool steel composition which will assure sufficient hardness and wear resistance by aging precipitation. It is the examiner's position that Watari on lines 46 to 67 of column 10 discloses V and Nb precipitates are present to improve machinability, strength and toughness, and lines 36 to 45 of column 10 discloses the present of Mo has an effect of improving hardenability.

It was argued that Watari fails to disclose forming Ti-base machinability improving compound phase that is not elongated in the direction of forging and rolling even though rolling or forging are performed. It is the examiner's position that this is a not a patentable consideration because the shaped (non-elongated) compound and a

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forged or rolled steel are not actively recited. Moreover, since composition and process limitations are met, one would expect the nodular compound to maintain its shape after working.

***Allowable Subject Matter***

Claims 2, 4,5, 8 ,9,12 to 16, 18 to 24 , 27, 31o 45 are allowed.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

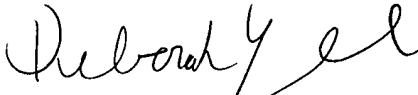
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 703-308-1102. The examiner can normally be reached on Monday-Friday from 6:30 to 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 703-308-1146. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

dy

A handwritten signature in cursive script, appearing to read "Deborah Yee", written in black ink.

**DEBORAH YEE  
PRIMARY EXAMINER**